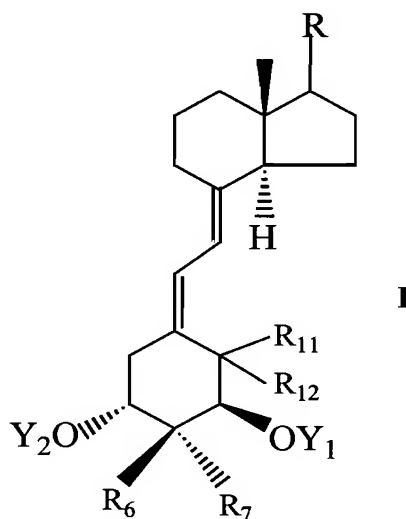


Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

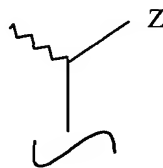
Listing of Claims:

1. (Currently Amended) A method of ~~increasing rate of skeletal repair in a mammal having a bone implant or bone transplant by stimulating osteoblast-mediated growth of new bone at the site of the transplant or implant, stimulating growth of new periodontal bone in a mammal,~~ comprising administering to the mammal at the site of the implant or transplant, ~~in an immobilized, slow release form,~~ a therapeutically effective amount of a compound having the formula:



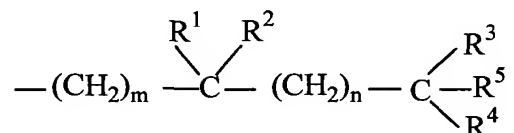
where Y_1 and Y_2 , which may be the same or different, are each selected from the group consisting of hydrogen and a hydroxy-protecting group, where R_{11} and R_{12} are each hydrogen or taken together are a methylene group, where R_6 and R_7 , which may be the same or different, are each selected from the group consisting of hydrogen, alkyl, hydroxyalkyl, fluoroalkyl, hydroxy and alkoxy, with the proviso that R_6 and R_7 cannot both be hydrogen, or R_6 and R_7 when taken together may represent the group $-(CH_2)_x-$ where X is an integer from 2 to 5, or R_6 and R_7 when taken together may represent the group $=CR_8R_9$ where R_8 and R_9 , which may be the same or different, are each selected from the group consisting of hydrogen, alkyl, hydroxyalkyl, fluoroalkyl, hydroxy and alkoxy, or when taken together R_8 and R_9 may

represent the group $-(CH_2)_x-$ where X is an integer from 2 to 5, and where the group R represents



where the stereochemical center (corresponding to C-20 in steroid numbering) may have the R or S configuration, (i.e. either the natural configuration about carbon 20 or the 20-epi configuration), and where Z is selected from Y, -OY, -CH₂OY,

-C≡CY and -CH=CHY, where the double bond may have the cis or trans geometry, and where Y is selected from hydrogen, methyl, -COR⁵ and a radical of the structure:



where m and n, independently, represent the integers from 0 to 5, where R¹ is selected from hydrogen, deuterium, hydroxy, protected hydroxy, fluoro, trifluoromethyl, and C₁₋₅-alkyl, which may be straight chain or branched and, optionally, bear a hydroxy or protected-hydroxy substituent, and where each of R², R³, and R⁴, independently, is selected from deuterium, deuterioalkyl, hydrogen, fluoro, trifluoromethyl and C₁₋₅ alkyl, which may be straight-chain or branched, and optionally, bear a hydroxy or protected-hydroxy substituent, and where R¹ and R², taken together, represent an oxo group, or an alkylidene group, =CR²R³, or the group $-(CH_2)_p-$, where p is an integer from 2 to 5, and where R³ and R⁴, taken together, represent an oxo group, or the group $-(CH_2)_q-$, where q is an integer from 2 to 5, and where R⁵ represents hydrogen, hydroxy, protected hydroxy, or C₁₋₅ alkyl and wherein any of the CH-groups at positions 20, 22, or 23 in the side chain may be replaced by a nitrogen atom, or where any of the groups -CH(CH₃)-, $-(CH_2)_m-$, -CR₁R₂- or $-(CH_2)_n-$ at positions 20, 22, and 23, respectively, may be replaced by an oxygen or sulfur atom.

Claims 2-7 (Cancelled)

13. (Original) The method of claim 11 wherein the compound as a trihexanoate such that Y_1 , Y_2 and Y_3 are each $CH_3(CH_2)_4CO-$.

14. (Original) The method of claim 11 wherein the compound is a trinonanoate such that Y_1 , Y_2 and Y_3 are each $CH_3(CH_2)_7CO-$.

15. (Original) The method of claim 11 wherein the compound is a 25-acetate such that Y_1 and Y_2 are both hydrogen and Y_3 is CH_3CO- .

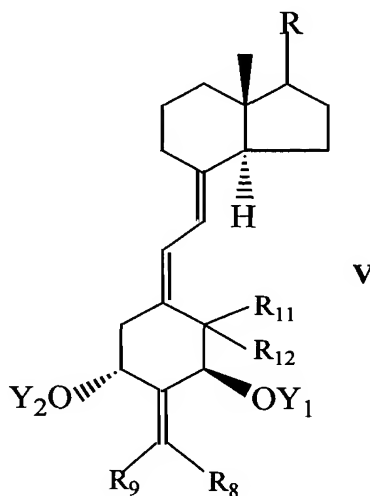
16. (Original) The method of claim 11 wherein the compound is 2-methylene-19-nor-1 α ,25(OH) $_2$ -D $_3$ -1,3,25-triacetate.

17. (Original) The method of claim 11 wherein the compound is 2-methylene-19-nor-1 α ,25(OH) $_2$ -D $_3$ -1,3,25-trihexanoate.

18. (Original) The method of claim 11 wherein the compound is 2-methylene-19-nor-1 α ,25(OH) $_2$ -D $_3$ -1,3,25-trinonanoate.

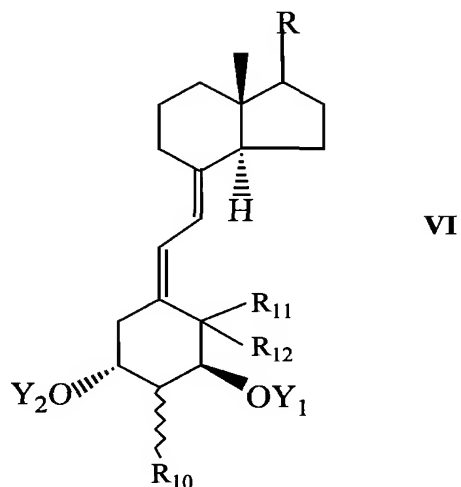
19. (Original) The method of claim 11 wherein the compound is 2-methylene-19-nor-1 α ,25(OH) $_2$ -D $_3$ -25-acetate.

20. (Original) The method of claim 1 wherein the compound administered is selected from the group consisting of:



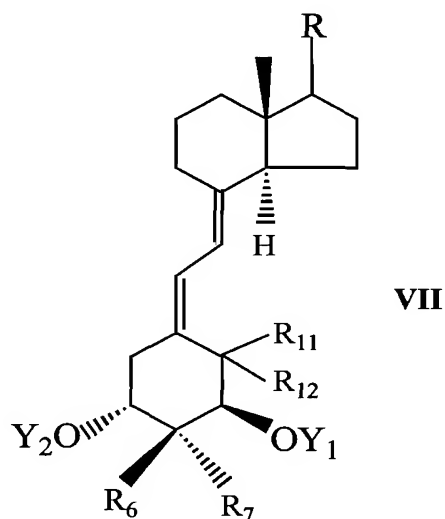
where Y_1 , Y_2 , R_{11} , R_{12} and R are as defined in claim 1 and R_8 and R_9 , which may be the same or different, are each selected from the group consisting of hydrogen, alkyl, hydroxyalkyl and fluoroalkyl, or, when taken together represent the group $-(CH_2)_X-$ where X is an integer from 2 to 5.

21. (Original) The method of claim 1 wherein the compound administered is selected from the group consisting of:



where Y_1 , Y_2 , R_{11} and R_{12} and R are as defined in claim 1 and R_{10} is selected from the group consisting of alkyl, hydroxyalkyl and fluoroalkyl.

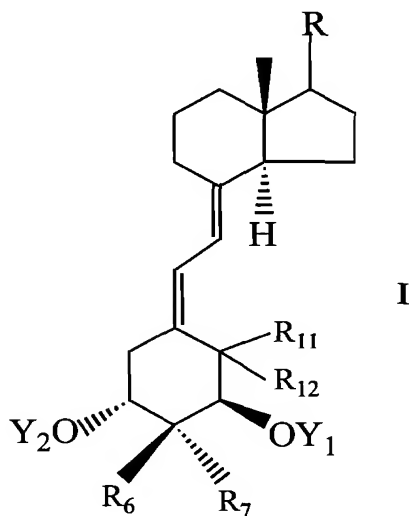
22. (Original) The method of claim 1 wherein the compound administered is selected from the group consisting of:



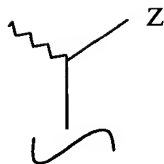
where Y_1 , Y_2 , R_{11} , R_{12} , R_6 , R_7 and R are as defined in claim 1 with the proviso that R^5 is $-OY_3$ and Y_3 is selected from the group consisting of an acyl or a hydrocarbyloxycarbonyl.

Claims 23-28 (Cancelled)

29. (Currently Amended) A method of ~~increasing rate of skeletal repair in a mammal having a bone implant or bone transplant by stimulating osteoblast-mediated growth of new bone at the site of the transplant or implant, stimulating osseointegration of a dental implant in a mammal,~~ comprising administering to the mammal ~~at the site of the implant or transplant, in an immobilized form,~~ a therapeutically effective amount of a compound having the formula:

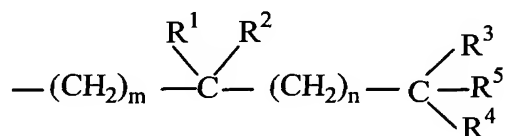


where Y_1 and Y_2 , which may be the same or different, are each selected from the group consisting of hydrogen and a hydroxy-protecting group, where R_{11} and R_{12} are each hydrogen or taken together are a methylene group, where R_6 and R_7 , which may be the same or different, are each selected from the group consisting of hydrogen, alkyl, hydroxyalkyl, fluoroalkyl, hydroxy and alkoxy, with the proviso that R_6 and R_7 cannot both be hydrogen, or R_6 and R_7 when taken together may represent the group $-(CH_2)_x-$ where X is an integer from 2 to 5, or R_6 and R_7 when taken together may represent the group $=CR_8R_9$ where R_8 and R_9 , which may be the same or different, are each selected from the group consisting of hydrogen, alkyl, hydroxyalkyl, fluoroalkyl, hydroxy and alkoxy, or when taken together R_8 and R_9 may represent the group $-(CH_2)_x-$ where X is an integer from 2 to 5, and where the group R represents



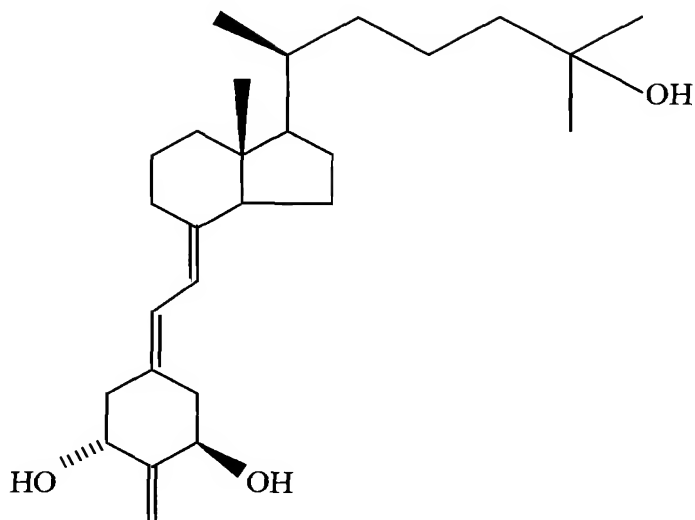
where the stereochemical center (corresponding to C-20 in steroid numbering) may have the R or S configuration, (i.e. either the natural configuration about carbon 20 or the 20-epi configuration), and where Z is selected from Y, -OY, -CH₂OY,

-C≡CY and -CH=CHY, where the double bond may have the cis or trans geometry, and where Y is selected from hydrogen, methyl, -COR⁵ and a radical of the structure:



where m and n, independently, represent the integers from 0 to 5, where R¹ is selected from hydrogen, deuterium, hydroxy, protected hydroxy, fluoro, trifluoromethyl, and C₁₋₅-alkyl, which may be straight chain or branched and, optionally, bear a hydroxy or protected-hydroxy substituent, and where each of R², R³, and R⁴, independently, is selected from deuterium, deuterioalkyl, hydrogen, fluoro, trifluoromethyl and C₁₋₅ alkyl, which may be straight-chain or branched, and optionally, bear a hydroxy or protected-hydroxy substituent, and where R¹ and R², taken together, represent an oxo group, or an alkylidene group, =CR²R³, or the group -(CH₂)_p-, where p is an integer from 2 to 5, and where R³ and R⁴, taken together, represent an oxo group, or the group -(CH₂)_q-, where q is an integer from 2 to 5, and where R⁵ represents hydrogen, hydroxy, protected hydroxy, or C₁₋₅ alkyl and wherein any of the CH-groups at positions 20, 22, or 23 in the side chain may be replaced by a nitrogen atom, or where any of the groups -CH(CH₃)-, -(CH₂)_m-, -CR₁R₂- or -(CH₂)_n- at positions 20, 22, and 23, respectively, may be replaced by an oxygen or sulfur atom.

30. (Previously Presented) The method of claim 29 wherein the compound administered is 2-methylene-19-nor-20(S)-1α,25-dihydroxyvitamin D₃ having the formula:

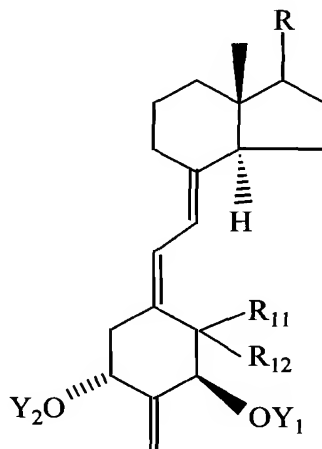


Claims 31-32 (Cancelled)

33. (New) The method of claim 29 wherein the compound is administered in a dosage of from 0.01 μ g to 50 μ g per day.

34. (New) The method of claim 29 wherein the mammal is a human.

35. (New) The method of claim 39 wherein the compound administered is an acylated derivative having the formula:



where Y^1 and Y^2 independently represent hydrogen or an acyl group, and with the proviso that R^5 is $-OY_3$ and Y_3 is selected from the group consisting of acyl or a hydrocarbyloxycarbonyl.

36. (New) The method of claim 35 wherein the compound is a triacetate such that Y_1 , Y_2 and Y_3 and each CH_3CO- .

37. (New) The method of claim 35 wherein the compound is a trihexanoate such that Y_1 , Y_2 and Y_3 are each $\text{CH}_3(\text{CH}_2)_4\text{CO}-$.

38. (New) The method of claim 35 wherein the compound is a trinonanoate such that Y_1 , Y_2 and Y_3 are each $\text{CH}_3(\text{CH}_2)_7\text{CO}-$.

39. (New) The method of claim 35 wherein the compound is a 25-acetate such that Y_1 and Y_2 are both hydrogen and Y_3 is $\text{CH}_3\text{CO}-$.

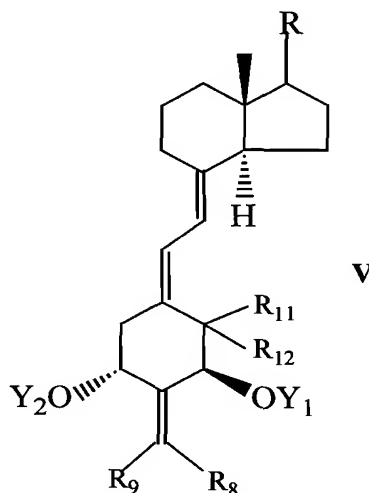
40. (New) The method of claim 35 wherein the compound is 2-methylene-19-nor- $1\alpha,25(\text{OH})_2\text{-D}_3\text{-1,3,25-triacetate}$.

41. (New) The method of claim 35 wherein the compound is 2-methylene-19-nor- $1\alpha,25(\text{OH})_2\text{-D}_3\text{-1,3,25-trihexanoate}$.

42. (New) The method of claim 35 wherein the compound is 2-methylene-19-nor- $1\alpha,25(\text{OH})_2\text{-D}_3\text{-1,3,25-trinonanoate}$.

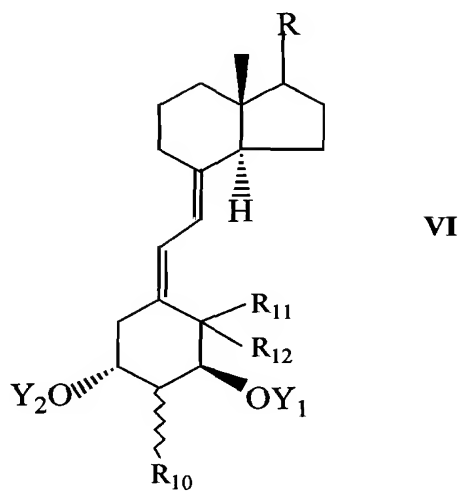
43. (New) The method of claim 35 wherein the compound is 2-methylene-19-nor- $1\alpha,25(\text{OH})_2\text{-D}_3\text{-25-acetate}$.

44. (New) The method of claim 29 wherein the compound administered is selected from the group consisting of:



where Y_1 , Y_2 , R_{11} , R_{12} and R are as defined in claim 29 and R_8 and R_9 , which may be the same or different, are each selected from the group consisting of hydrogen, alkyl, hydroxyalkyl and fluoroalkyl, or, when taken together represent the group $-(\text{CH}_2)_X-$ where X is an integer from 2 to 5.

45. (New) The method of claim 29 wherein the compound administered is selected from the group consisting of:



where Y_1 , Y_2 , R_{11} and R_{12} and R are as defined in claim 29 and R_{10} is selected from the group consisting of alkyl, hydroxyalkyl and fluoroalkyl.